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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
08/118,475	09/07/92	AFZALI-ARZAKANI	A 12M1094

THOMAS A. BECK
15 ALAMEDA PLACE
MOUNT VERNON NY 10552

IM51/0416

EXAMINER

DELICOTTO, G

ART UNIT

PAPER NUMBER

1751

DATE MAILED: 04/16/93

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks



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SERIAL NUMBER	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
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08/118,475 09/07/93 AFZALI-ARDAKANI A 18M103A

EXAMINER

11M1/1028

ART UNIT 1110-PAPER NUMBER

ROSEN DAINOW & JACOBS
489 FIFTH AVENUE
NEW YORK NY 10017

1105

DATE MAILED:

8/20/97
3-27-98
4-16-98

This is a communication from the examiner in charge of your application.
COMMISSIONER OF PATENTS AND TRADEMARKS

☐ This application has been examined ☒ Responsive to communication filed on 8/20/97 ☒ This action is made final.

A shortened statutory period for response to this action is set to expire 3 month(s), — days from the date of this letter.
Failure to respond within the period for response will cause the application to become abandoned. 35 U.S.C. 133

Part I THE FOLLOWING ATTACHMENT(S) ARE PART OF THIS ACTION:

- ☐ Notice of References Cited by Examiner, PTO-892.
- ☐ Notice of Draftsman's Patent Drawing Review, PTO-948.
- ☐ Notice of Art Cited by Applicant, PTO-1449.
- ☐ Notice of Informal Patent Application, PTO-152.
- ☐ Information on How to Effect Drawing Changes, PTO-1474.
- ☐

Part II SUMMARY OF ACTION

1. ☒ Claims 53-59, 61-66, 69-94 are pending in the application.

Of the above, claims — are withdrawn from consideration.

2. ☒ Claims 60, 67 have been cancelled.

3. ☒ Claims 91, 92 are allowed.

4. ☒ Claims 53-59, 62-66, 69, 70, 72-86, 89, 90, 93, 94 are rejected.

5. ☒ Claims 61, 71, 87, 88 are objected to.

6. ☐ Claims — are subject to restriction or election requirement.

7. ☐ This application has been filed with informal drawings under 37 C.F.R. 1.85 which are acceptable for examination purposes.

8. ☐ Formal drawings are required in response to this Office action.

9. ☐ The corrected or substitute drawings have been received on — Under 37 C.F.R. 1.84 these drawings are ☐ acceptable; ☐ not acceptable (see explanation or Notice of Draftsman's Patent Drawing Review, PTO-948).

10. ☐ The proposed additional or substitute sheet(s) of drawings, filed on — has (have) been ☐ approved by the examiner; ☐ disapproved by the examiner (see explanation).

11. ☐ The proposed drawing correction, filed —, has been ☐ approved; ☐ disapproved (see explanation).

12. ☐ Acknowledgement is made of the claim for priority under 35 U.S.C. 119. The certified copy has ☐ been received ☐ not been received ☐ been filed in parent application, serial no. —; filed on —.

13. ☐ Since this application appears to be in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under Ex parte Quayle, 1935 C.D. 11; 453 O.G. 213.

14. ☐ Other

EXAMINER'S ACTION

Art Unit:

DETAILED ACTION

Response to Amendment

1. Claims 53-59, 61-66 and 69-94 are pending. Claims 60 and 67 have been cancelled.
2. Applicant's arguments filed 7/29/97 and 10/27/97 have been fully considered but they are not deemed to be persuasive. Note that, in the amendment submitted 8/20/97, Applicant attempted to amend claim 61 to become dependent upon 89 by deleting "60" and amend claims 70 and 71 to become dependent upon 90 by deleting "15". In response, note that this amendment has not been entered since claim 61 was not dependent upon claim 60 and there is no "15" present in either claim 70 or 71.

Claim Rejections - 35 US § 103

3. The following is a quotation of 35 U.S.C. § 103 which forms the basis for all obviousness rejections set forth in this Office action:

A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Subject matter developed by another person, which qualifies as prior art only under subsection (f) or (g) of section 102 of this title, shall not preclude patentability under this section where the subject matter and the claimed invention were, at the time the invention was made, owned by the same person or subject to an obligation of assignment to the same person.

Evaluations of the level of ordinary skill in the art requires consideration of such factors as various prior art approaches, types of problems encountered in the art, rapidity with which

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innovations are made, sophistication of technology involved, educational background of those actively working in the field, commercial success, and failure of others.

The "person having ordinary skill" in this art has the capability of understanding the scientific and engineering principles applicable to the claimed invention. The evidence of record including the references and/or the admissions are considered to reasonably reflect this level of skill.

4. Claim 53-59, 62-70, 72-86, 89, 90, 93 and 94 are rejected under 35 U.S.C. § 103 as being unpatentable over Sakai et al (US 4,933,106), Wei (US 4,940,517), Tieke et al (US 4,771,111) or Jen et al (US 5,068,060).

The present claims are drawn to an electrically conductive composition containing an electrically conductive polymer and a polymer dopant, the method of making such a composition and articles formed therefrom. The electrically conductive polymer and the polymer dopant can be selected from lists of well known conductive polymers and well known polymer dopants. Each of the references listed above teach an electrically conductive composition containing an electrically conductive polymer and a polymer dopant as claimed by applicant. Each reference teaches at least one embodiment of applicant's invention. While some of applicant's dependent claims recite a specific conductive polymer with a specific dopant, nothing unobvious is seen in merely selecting a conductive polymer and a polymer dopant from lists of materials that are taught by the prior art.

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Sakai discloses an electrically conductive composition, and method of making such, comprising a conductive polymer and a polymer dopant, which can be the same as those presently claimed. See columns 2 and 3. For example, Sakai teaches polypyrrole and polythiophene as polymers and teaches polyacrylic acid, polysulfonic acids and acids containing carboxylic groups as dopants. It would have been prima facie obvious for one skilled in the art to make an electrically conductive composition out of any combination of these polymers and dopants as Sakai clearly suggests that such may be done.

Wei discloses an electrically conductive composition, and method of making such, comprising polyaniline and a polymer dopant. The dopant can be polysulfonic acid and polyacrylic acid. See column 4, lines 4-8.

Jen discloses an electrically conductive composition, and a method of making such, comprising a polymer (heterocyclic vinylene) and a polymer dopant. The dopant can be polyacrylic acid and those containing carboxylic acid or sulfonic acid groups. See abstract and column 14, lines 57-65. The electrically conductive forms of the polymers are formed by doping corresponding neutral forms of the polymer in solution or in solid state. See column 14, lines 21-30. The solvent type employed can vary widely, from polar to nonpolar. See column 15, lines 20-55. The proportion of polymer and solvent in the solution are not critical and can vary widely. The solution of this invention may include a third essential ingredient which is an electrom dopant solute. The purpose of the dopant is to dope the polymer and render it electrically conductive in solution. See column 16, lines 58-69. The method of

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forming the solutions of this invention is not critical and can vary widely. One preferred method of forming the present solution containing the doped homopolymer or copolymer is to form the dopant solute from part of the solvent either in the presence of the polymer solute or followed by addition of polymer solute. See column 17, line 62 to column 18, line 40.

Tieke discloses an electrically conductive composition comprising a mixture of polyimide and polypyrrole. See abstract and examples. Polyamic acid is cyclised to form the polyimide. See column 14, lines 55-60.

While all of the references do not contain a specific example disclosing each of applicant's embodiments, the suggestion to do so is clearly stated in each patent. The skilled artisan would simply expect that the polymer dopants would produce results similar in degree to the other dopants listed and specifically demonstrated. Nothing unobvious is seen in doing so. Additionally, note that each reference teaches the shaping of the polymer material into useful articles.

It would have been obvious to one of ordinary skill in the art to determine with minimum testing, in the absence of a showing of unexpected or superior results, the optimum proportions and types of ingredients used in the composition and process as recited by the instant claims since the broad teachings of Sakai et al, Wei or Jen et al encompass such a composition and process.

5. Claims 53-59, 66, 67, 69, 70, 79 and 82-86, 89, 90, 93 and 94 are rejected under 35 U.S.C. § 103 as being unpatentable over Li et al.

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Li et al teach polyaniline is soluble in common organic solvents and has been synthesized by using organic proton acids of large molecular size. See Abstract. Some of these acids include toluene-p-sulphonic acid and polystyrene sulphonic acid (PSSA). When these acids were used, the conductive polyanilines were soluble in some organic solvents.

Li et al do not exemplify the composition and process as instantly claimed.

It would have been obvious to one of ordinary skill in the art to determine with minimum testing, in the absence of a showing of unexpected or superior results, the optimum proportions for the components of the composition and process as instantly claimed since the broad teachings of Li et al encompass such a composition and process.

Allowable Subject Matter

6. Claims ~~60~~, 61, 71, 87 and 88 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. .
7. Note that, claims 91 and 92 are allowable as they stand.

Response to Arguments

In response to Applicant's arguments, applicant states that Sakai et al, Wei, Tieke et al or Jen et al do not disclose a soluble composition of matter. In response, the prior art teaches electrically conducting polymers, Lewis acid polymer dopants and solvents which are the same as those in the instant claims. Therefore if the components of the instant claims are miscible, one could reasonably conclude those of the prior art also exhibit this state.

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With respect to instant claims 53, 83, 89 and 93, they state that that the conductive compatible polymer blend composition comprises the reaction product formed from a Lewis base electrically conductive polymer in an organic solvent in undoped form and a Lewis acid polymer dopant in said organic solvent... Note that, these are product-by-process claims and where product-by-process claim is rejected over prior art product that appears to be identical, although produced by different process, burden is upon applicants to come forward with evidence establishing unobvious difference between claimed product and prior art product. In re Marosi, 218 USPQ 289, 293.

As noted previously, Applicant has filed a video tape which is alleged to establish conclusively that the composition of the present invention is different in kind rather than degree from the prior art compositions. After viewing the videotape, a determination was made that criticality in the form of unexpected and superior results was demonstrated when polyamic acid was used as the polydopant in the composition and process. However, no other criticality was shown with respect to any of the other polydopants and, therefore, the showing is not commensurate in scope with the claimed invention. Note that, showing of unobvious results must be commensurate in scope with the claims. In re Lindner, 173 USPQ 356, 358.

The prior art references broadly teach an electrically conductive composition containing an electrically conductive polymer and a polymer dopant, the method of making such a composition and articles formed therefrom. The examiner is using each reference independently to reject the claims. While all of the references do not contain a specific

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example disclosing each of applicant's embodiments, the suggestion to do so is clearly stated in each patent. The skilled artisan would simply expect that the polymer dopants would produce results similar in degree to the other dopants listed and specifically demonstrated. Nothing unobvious is seen in doing so. Additionally, note that each reference teaches the shaping of the polymer material into useful articles.

Conclusion

8. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for response to this final action is set to expire **THREE MONTHS** from the date of this action. In the event a first response is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event will the statutory period for response expire later than **SIX MONTHS** from the date of this final action.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Gregory R. Del Cotto whose telephone number is (703) 308-2519.

Serial Number: 08/118475

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GRD *JD*
October 27, 1997



PAUL LIEBERMAN
SUPERVISORY PRIMARY EXAMINER
ART UNIT 115